

#13/Dwdwg
12/6/99

Attorney Docket No.: Noxtech-01B

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

Sudduth, et al

Serial No.: 09/211,879

Filed: December 14, 1998

For: APPARATUS AND METHOD FOR
REDUCING NOX FROM
EXHAUST GASES PRODUCED
BY INDUSTRIAL PROCESSES



Examiner: Vanoy, T 1754

Group Art Unit: 1764

RECEIVED
DEC - 3 1999
TC 1700 MAIL ROOM

Assistant Commissioner for Patents
Washington, D.C. 20231

AMENDMENT

Sir:

In response to the office action mailed June 22, 1999, please re-examine the above-identified application in view of the following amendment and remarks. A petition for extension of time accompanies this amendment and is hereby requested.

IN THE CLAIMS:

1 ~~61~~ (amended) A method for reducing pollutants including NOx in an exhaust gas, comprising the steps of:

generating the exhaust gas and controlling the initial temperature and composition of an exhaust gas in the ranges of about 900-1600°F and about 2-18% O₂, respectively, effective for autoignition of hydrocarbons;

D₁ controlling the introduction of hydrocarbons to autoignite and release heat autothermally effective for self-sustaining autocatalytic reactions under fuel-lean conditions wherein the exhaust gas contains at least 1% O₂ and is heated to a final temperature in the range of about 1400-1550°F; and

introducing one or more reductants for NOx into the exhaust gas wherein NH₃, HNCO or a combination thereof are generated from the reductant(s);

wherein the autothermal heating results in autocatalytic conditions effective for reducing the NOx and substantially depleting the NH₃, HNCO and hydrocarbons and any by-product CO.